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 MITSUBISHI CHEM CORP \*JP 08133986-A  
 94.11.02 94JP-269780 (96.05.28) A61K 47/26, 9/127, 9/19, 47/10  
 Lyophilised liposome prepn. for stabilising liposome(s) - comprises  
 cyclic innulo-oligosaccharide and does not alter particle size after  
 rehydration  
 C96-097601

B(4-C2X, 10-E4C, 12-M6, 12-M11F) .3

Lyophilised liposome prepn. comprises a cyclic innulo-oligosaccharide.

#### USE

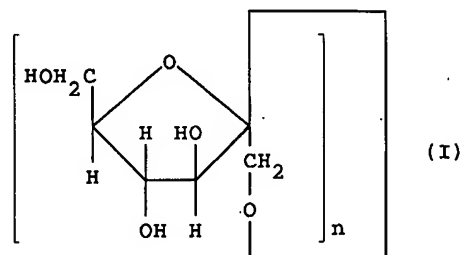
The prepn. can be used in the stabilisation of liposomes.

#### ADVANTAGE

The stable liposome lyophilised prepn. does not change the particle size after rehydration without losing the enclosed pharmaceutically effective ingredient.

#### PREFERRED METHOD

The liposome prepn. is partic. a  $\beta$ -2,1 bound cyclic structure with 2-8 mols of fructose of formula (I) and a polyhydric alcohol.



$n = 2-8$ .

A liposome is mixed with (I) at 1:10-1, pref. 1:5-2, and a polyhydric alcohol (e.g. ethylene glycol, polyethylene glycol, polyvinyl alcohol and diethylene glycol, esp. glycerin) and lyophilised to give the desired prod.

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#### EXAMPLE

200 mg Dipalmitoyl phosphatidyl choline (DPPC) and a cholesterol mixt. in ratio 18:5 were dissolved in  $\text{CHCl}_3$  and 2 ml aq. calcein was added and mixed 4 times at 60 °C for 1 min. every 15 mins. to give a multiple lamellar vesicle (MLV).

The MLV was filtered 10 times through a 100 nm pore size filter and gel filtered to give liposome particles. The particles at 20 mg/ml were mixed with 60 mg/ml cyclic innulo-oligosaccharide and 10 mg/ml glycerin and lyophilised to give the desired prod. The prod. was re-hydrated and recovered at 92%.(LV)  
 (4pp079DwgNo.0/0)

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